

03/25/99  
jc376 U.S. PRO

Attorney's Docket No. 98-1232  
Client's Docket No. MIM961

**PATENT Utility APPLICATION COVER SHEET**

BOX PATENT APPLICATION  
HONORABLE ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D. C. 20231

jc511 U.S. PRO  
09/27/07  
03/25/99

Sir:

Transmitted herewith for filing is the utility patent application of:

INVENTOR: CARLOS FLOREZ

FOR: PERSONALIZED SAFETY DEVICE FOR A HAND HELD WEAPON

**Enclosed are:**

- ☒ Postcard for receipt stamp and return.
- ☒ Applicant's Check for **\$380.00**, covering fees calculated below.
- ☒ Specification with Claims, Abstract, & Declaration & Power of Attorney
- ☒ A verified statement to establish small entity status under 37C.F.R § 1.9 and 37 C.F.R. § 1.27.
- ☒ 3 sheets of drawing.
- ☐ Cover Sheet & Assignment to: \_\_\_\_\_
- ☐ Information Disclosure Statement.

**The filing fee has been calculated as shown below:**

	(Col. 1)	(Col. 2)		SMALL ENTITY
FOR:	No. Filed	No. Extra	RATE	FEE
BASIC FEE			\$380	<b>\$380</b>
TOTAL CLAIMS	0	-20=	0 x09	0
INDEPENDENT CLAIMS	0	- 3=	0 x39	0
MULTIPLE DEPENDENT CLAIMS PRESENTED			+125	
<b>TOTAL</b>				<b>\$380</b>

DEPOSIT ACCOUNT AUTHORIZATION

The Commissioner is hereby authorized to charge any fees, which are not otherwise submitted and which may be required under 37 CFR 1.17 during the entire pendency of this application, to the Deposit Account # **11-0020**.



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Attorney's Docket No. K&A 98-1232  
Client's Docket No. MIM961

Applicant or Patentee: **CARLOS FLOREZ**  
Serial or Patent Number:  
Filed or Issued:  
For: **PERSONALIZED SAFETY DEVICE FOR A HAND HELD  
WEAPON**

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
STATUS (37 CFR 1.9(f) and 1.27(b) - INDEPENDENT INVENTOR**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled as above and described in:

☒ the specification filed herewith.  
☐ application serial number \_\_\_\_\_, filed \_\_\_\_\_.  
☐ patent no. \_\_\_\_\_, issued \_\_\_\_\_.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

☒ no such person, concern, or organization  
☐ persons, concerns or organizations listed below\*

\*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME: NOT APPLICABLE ☐ INDIVIDUAL  
ADDRESS: NOT APPLICABLE ☐ SMALL BUSINESS CONCERN  
☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time

of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF INVENTOR: CARLOS FLOREZ

  
Inventor's Signature

Date:

MARCH 17/99

Attorney's Docket No. K&A 98-1232  
Client's Docket No. MIM961

**APPLICATION**

**FOR UNITED STATES LETTERS PATENT**

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**SPECIFICATION**

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, **CARLOS FLOREZ**, a citizen of  
UNITED STATES OF AMERICA, have invented a new and useful  
**PERSONALIZED SAFETY DEVICE FOR A HAND HELD**  
**WEAPON** of which the following is a specification:

# PERSONALIZED SAFETY DEVICE FOR A HAND HELD WEAPON

5

## BACKGROUND OF THE INVENTION

### Field of the Invention

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The present invention relates to personalized safety devices for hand held weapons and more particularly pertains to a new personalized safety device for a hand held weapon for preventing unauthorized use of a hand held weapon having a trigger.

15

### Description of the Prior Art

20

The use of personalized safety devices for hand held weapons is known in the prior art. More specifically, personalized safety devices for hand held weapons heretofore devised and utilized are known to consist basically of familiar, expected and obvious structural configurations, notwithstanding the myriad of designs encompassed by the crowded prior art which have been developed for the fulfillment of countless objectives and requirements.

25

Known prior art includes U. S. Patent No. 5,603,179; U.S. Patent No. 4,467,545; U.S. Patent No. 4,970,819; U.S. Patent No. 5,062,232; U.S. Patent No. 5,151,633; and U.S. Patent No. Des. 375,342 which are all incorporated by reference herein.

While these devices fulfill their respective, particular objectives and requirements, the aforementioned patents do not disclose a new personalized safety device for a hand held weapon.

5 The inventive device includes a housing which is coupled to a weapon such that the housing is positioned in front of the handgrip and trigger of the weapon. A pair of elongate guard plates outwardly extend from a pair of elongate slots in the back of the housing. A motor is disposed in the housing for extending and the  
10 retracting the guard plates from the housing. A computer is provided for controlling the retraction and extension of the guard plates by the motor. A scanner is mounted to the handgrip of the weapon and is in communication with the computer. The scanner obtains an image of the fingerprints and handprint of the user  
15 grasping the handgrip. If the scanned image matches data stored in the computer corresponding to the fingerprints and handprint of an authorized user, the computer activates the motor to retract the guard plates.

20 In these respects, the personalized safety device for a hand held weapon according to the present invention substantially departs from the conventional concepts and designs of the prior art, and in so doing provides an apparatus primarily developed for the purpose of preventing unauthorized use of a hand held weapon  
25 having a trigger.

## SUMMARY OF THE INVENTION

In view of the foregoing disadvantages inherent in the known  
30 types of personalized safety devices for hand held weapons now present in the prior art, the present invention provides a new

personalized safety device for a hand held weapon construction wherein the same can be utilized for preventing unauthorized use of a hand held weapon having a trigger.

5           The general purpose of the present invention, which will be described subsequently in greater detail, is to provide a new personalized safety device for a hand held weapon apparatus and method which has many of the advantages of the personalized safety devices for hand held weapons mentioned heretofore and  
10 many novel features that result in a new personalized safety device for a hand held weapon which is not anticipated, rendered obvious, suggested, or even implied by any of the prior art personalized safety devices for hand held weapons, either alone or in any combination thereof.

15           To attain this, the present invention generally comprises a housing which is coupled to a weapon such that the housing is positioned in front of the handgrip and trigger of the weapon. A pair of elongate guard plates outwardly extend from a pair of  
20 elongate slots in the back of the housing. A motor is disposed in the housing for extending and the retracting the guard plates from the housing. A computer is provided for controlling the retraction and extension of the guard plates by the motor. A scanner is mounted to the handgrip of the weapon and is in communication  
25 with the computer. The scanner obtains an image of the fingerprints and handprint of the user grasping the handgrip. If the scanned image matches data stored in the computer corresponding to the fingerprints and handprint of an authorized user, the computer activates the motor to retract the guard plates.

30

There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are additional features of the invention that will be described hereinafter and which will form the subject matter of the claims appended hereto.

In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting.

As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

Further, the purpose of the foregoing abstract is to enable the U.S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence



of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

5

It is therefore an object of the present invention to provide a new personalized safety device for a hand held weapon apparatus and method which has many of the advantages of the personalized safety devices for hand held weapons mentioned heretofore and many novel features that result in a new personalized safety device for a hand held weapon which is not anticipated, rendered obvious, suggested, or even implied by any of the prior art personalized safety devices for hand held weapons, either alone or in any combination thereof.

15

It is another object of the present invention to provide a new personalized safety device for a hand held weapon which may be easily and efficiently manufactured and marketed.

20

It is a further object of the present invention to provide a new personalized safety device for a hand held weapon which is of a durable and reliable construction.

25

An even further object of the present invention is to provide a new personalized safety device for a hand held weapon which is susceptible of a low cost of manufacture with regard to both materials and labor, and which accordingly is then susceptible of low prices of sale to the consuming public, thereby making such personalized safety device for a hand held weapon economically available to the buying public.

30

Still yet another object of the present invention is to provide a new personalized safety device for a hand held weapon which provides in the apparatuses and methods of the prior art some of the advantages thereof, while simultaneously overcoming some of the disadvantages normally associated therewith.

Still another object of the present invention is to provide a new personalized safety device for a hand held weapon for preventing unauthorized use of a hand held weapon having a trigger.

Yet another object of the present invention is to provide a new personalized safety device for a hand held weapon which includes a housing which is coupled to a weapon such that the housing is positioned in front of the handgrip and trigger of the weapon. A pair of elongate guard plates outwardly extend from a pair of elongate slots in the back of the housing. A motor is disposed in the housing for extending and the retracting the guard plates from the housing. A computer is provided for controlling the retraction and extension of the guard plates by the motor. A scanner is mounted to the handgrip of the weapon and is in communication with the computer. The scanner obtains an image of the fingerprints and handprint of the user grasping the handgrip. If the scanned image matches data stored in the computer corresponding to the fingerprints and handprint of an authorized user, the computer activates the motor to retract the guard plates.

Still yet another object of the present invention is to provide a new personalized safety device for a hand held weapon that may be used on any weapon having a trigger.

Even still another object of the present invention is to provide a new personalized safety device for a hand held weapon that may be made as an add on for pre-existing hand held weapons or integrally manufactured on new hand held weapons.

5

These together with other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be made to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

## 15 **BRIEF DESCRIPTION OF THE DRAWINGS**

The invention will be better understood and objects other than those set forth above will become apparent when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

20

Figure 1 is a schematic front perspective view of a new personalized safety device for a hand held weapon according to the present invention.

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Figure 2 is a schematic side view of the present invention on a hand held weapon with the guard plates in their extended position covering the trigger and trigger guard of the weapon.

30

Figure 3 is a schematic top view of the present invention.

Figure 4 is a schematic cross sectional view of the present invention taken from line 4-4 of Figure 1.

Figure 5 is a schematic back view of the present invention as seen from the vantage of line 5-5 of Figure 4.

Figure 6 is a schematic bottom view of the present invention.

Figure 7 is an electrical schematic of the present invention.

Figure 8 is an electrical schematic of the external computer.

Figure 9 is a schematic cross sectional view of the present invention taken from line 9-9 of Figure 4.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the drawings, and in particular to Figures 1 through 9 thereof, a new personalized safety device for a hand held weapon embodying the principles and concepts of the present invention will be described.

As best illustrated in Figures 1 through 9, the personalized safety device for a hand held weapon generally comprises a housing which is coupled to a weapon such that the housing is positioned in front of the handgrip and trigger of the weapon. A pair of elongate guard plates outwardly extend from a pair of elongate slots in the back of the housing. A motor is disposed in the housing for extending and the retracting the guard plates from the housing. A computer is provided for controlling the retraction and extension of the guard plates by the motor. A scanner is mounted to the handgrip of the weapon and is in communication with the computer. The scanner obtains an image of the fingerprints and handprint of

the user grasping the handgrip. If the scanned image matches data stored in the computer corresponding to the fingerprints and handprint of an authorized user, the computer activates the motor to retract the guard plates.

5

In use, the personalized safety device is designed for use on a weapon 10 having a handgrip 11, a trigger 12 forwardly located from the handgrip, and preferably a trigger guard 13 around the trigger. In an after-market embodiment, a lower forwards break 14  
10 may have to be formed in the trigger guard to provide a passage through the trigger guard.

The system includes a housing 15 has a top 16, a bottom 17, a front 18, a back 19 and a pair of sides 20,21. The housing has a  
15 rear portion 22 rearwardly extending from the back of the housing adjacent the bottom of the housing. The rear portion of the housing has an upper face lying in a plane between the top and bottom of the housing.

20 The top of the housing is coupled to the weapon such that the housing is positioned in front of the handgrip. In one preferred embodiment, the top of the housing may have a pair of mounting holes 23 for permitting extension of fasteners therethrough and into the weapon to couple the top of the housing to the weapon. The  
25 back of the housing is positioned adjacent the trigger guard of the weapon so that the rear portion of the housing is positioned adjacent the lower forwards break of the trigger guard. In an embodiment where the housing is integrally formed with the weapon, no lower forwards break is needed because the upper face  
30 of the rear portion forms a portion of the trigger guard spanning the

location of the lower forwards break found in the after-market embodiment.

As best illustrated in Figure 5, the back of the housing has a spaced apart pair of substantially parallel elongate slots 24,25 therein. Preferably, the upper face of the rear portion of the housing has a spaced apart pair of substantially parallel elongate channels 26,27 rearwardly extending from the back of the housing. A first of the elongate channels is positioned adjacent a first of the elongate slots of the back of the housing and a second of the elongate channels is positioned adjacent a second of the elongate slots of sad back of the housing.

A pair of elongate guard plates 28,29 are also included with the first elongate channel receiving a first of the guard plates and the second elongate channel receiving a second of the guard plates. The first guard plate is slidably inserted into the first elongate slot and the second guard plate is slidably inserted into the second elongate slot. In use, the first and second guard plates are slidable in and out of the housing between extended and retracted positioned. As best illustrated in Figure 2, the guard plates are rearwardly extended from the back of the housing to substantially cover sides of the trigger guard when the guard plates are positioned in the extended position to prevent a user's finger from is extendable through the trigger guard. Conversely, the guard plates are extended into the back of the housing to uncover sides of the trigger guard when the guard plates are positioned in the retracted position to permit a user's finger to be extendable through the trigger guard in front of the trigger.

Each of the guard plates has a toothed lower edge 31. A motor 31 is disposed in the housing and has a pair of rotatable toothed wheels 32,33. One of the toothed wheels gearingly engages the toothed lower edge of the first guard plate and the other of the toothed wheels gearingly engages the toothed lower edge of the second guard plate. In use, rotation of the toothed wheels in a first direction by the motor thereby moves the guard plates towards the extended position. Similarly, rotation of the toothed wheels in a second direction opposite the first direction by the motor thereby moves the guard plates towards the retracted position.

Preferably, a trigger stop 34 is pivotally mounted in a recess in to the rear portion of the housing such that the trigger stop is positioned adjacent the trigger of the weapon. In use, the trigger stop is pivotable between raised and lower positions. The trigger stop has an upper portion 35 extending through the break in the trigger guard and behind the trigger to thereby prevent actuation of the trigger and thereby prohibit discharge of the weapon when the trigger stop is pivoted to the raised position. When the trigger stop is pivoted to the lowered position, the upper portion of the trigger stop is retracted into the rear portion of the housing to thereby permit actuation of the trigger to discharge the weapon.

A solenoid 36 disposed in the housing has a retractably extendable actuating rod 37 extending therefrom which is coupled to the trigger stop. In use, the extension of the actuating rod out of the solenoid by the solenoid pivots the trigger stop towards the raised position. Conversely, the retraction of the actuating rod into the solenoid by the solenoid pivots the trigger stop towards the lowered position.

A computer 38 (i.e., central processing unit) is provided in the housing and is in electrical communication with the motor and the solenoid. The computer has computer circuitry 39 for  
5 selectively controlling rotation of the toothed wheels in the first and second directions and controlling retraction and extension of the actuator rod in and out of the solenoid.

A first battery power source 40 is provided in the housing and  
10 in electrical communication with the computer, the motor, and the solenoid for providing power to the computer, the motor, and the solenoid. Preferably, the bottom of the housing has a removable access panel 41 for providing access to the first battery power source. Ideally, a voltage detector 42 is disposed in the housing  
15 and is electrically connected to the first battery power source for detecting voltage across the first battery source. The voltage detector has a pair of light sources 43 (preferably light emitting diodes) electrically connected thereto. One of the light sources is mounted on one of the sides of the housing and the other of the  
20 light sources is mounted to the other of the sides of the housing. In use, the voltage detector illuminates the light sources when the voltage detector detects a voltage across the first battery power source less than a predetermined voltage to provide a visual indicator to a user when the battery power is running low and  
25 needing to be recharged or replaced.

The front of the housing a communication port 44 in electrical communication with the computer. The communication port is designed for electrically connecting to an external computer 50 via  
30 an interface board 51 for permitting input into the computer input



data corresponding to an image of a particular user's fingerprints and handprints taken by an external scanner 52 connected to the external computer.

5       The computer has computer memory 45 electrically connected thereto for storing the input data. The computer preferably has a second battery power source 46 electrically connected to the computer memory for maintaining storage of the input data in the computer memory. The second battery power source is positioned  
10   adjacent the access panel to provide easy access to the second battery power source.

At least one scanner 47 is mounted to the handgrip of the weapon (preferably, a scanner is mounted to each side of the  
15   handgrip). The scanner is in electrical communication with the computer. In use, the scanner obtains an image of the fingerprints and handprints of a user grasping the handgrip and sends a corresponding digital signal to the computer corresponding to the obtained image. Preferably, the scanner has an optical scan surface  
20   large enough to offer a complete image of the user's fingerprint.

The computer then compares the corresponding signal received from the scanner with the input data. When the corresponding signal matches the input data (thereby indicating that  
25   an authorized user is grasping the handgrip), the computer activates the motor to rotate the toothed wheels in the second direction to move the guard panels to the retracted position and activates and the solenoid to retract the actuator rod to pivot the trigger stop to the lowered position. When an unauthorized user whose  
30   fingerprints and handprints are not stored in the computer member

grasps the handgrip, the scanner sends a corresponding signal to the computer that does not match with the input data. Upon such an occurrence, the computer prevents retracting of the guard plates and lowering of the trigger stop.

5

When the authorized user releases their grasp on the handgrip, the scanner sends a release signal to computer. Upon receipt of the release signal to cover the trigger once the authorized user lets go of the weapon, the computer activates the motor to rotate the  
10 toothed wheels in the first direction to move the guard panels to the extended position and activates the solenoid to extend the actuator rod to pivot the trigger stop to the raised position.

A motion detector 48 (such as a type of mercury switch) for  
15 detecting motion is disposed in the housing for detecting when the housing and weapon are moved. The motion detector is electrically connected to the computer, the motor and the solenoid. The motion detector has an activation switch 49 electrically connected between  
20 the first battery power source and the computer, motor, and solenoid. In use, the motion detector activates (i.e., closes) the switch upon detection of motion to thereby provide energy to the computer, motor and solenoid from the first battery power source. The motion detector deactivates (i.e., opens) the switch upon the  
25 lack of detection of motion for a predetermined elapsed amount of time to thereby cut off energy to the computer, motor and solenoid from the first battery power source.

As to a further discussion of the manner of usage and operation of the present invention, the same should be apparent

from the above description. Accordingly, no further discussion relating to the manner of usage and operation will be provided.

With respect to the above description then, it is to be realized  
5 that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all  
10 equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous  
15 modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

I claim:

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a computer being provided in said housing and in electrical communication with said motor;

said housing a communication port in electrical communication with said computer, said communication port being adapted for electrically connecting to an external computer for permitting input into said computer input data corresponding to an image of a particular user's fingerprints and handprints;

a scanner being mounted to said handgrip of said weapon and in electrical communication with said computer for obtaining an image of the fingerprints and handprints of a user grasping said handgrip and sending a corresponding signal to said computer corresponding to the obtained image;

said computer comparing said corresponding signal received from said scanner with said input data, wherein said computer activating said motor to move said guard panels to said retracted position when said corresponding signal matches said input data;

a motion detector for detecting motion being disposed in said housing, motion detector being electrically connected to said computer, said motion detector having an activation switch electrically connected to said computer, said motion detector activating said switch to activate said computer upon detection of motion of said housing by said motion detector.

2. The safety system of claim 1, wherein said housing has a rear portion rearwardly extending from said back of said housing adjacent said bottom of said housing, wherein said rear portion of

said housing has a spaced apart pair of substantially parallel elongate channels rearwardly extending from said back of said housing, a first of said elongate channels being positioned adjacent said first elongate slot of said back of said housing and a second of said elongate channels being positioned adjacent said second elongate slot of said back of said housing, said first elongate channel receiving said first guard plate, and said second elongate channel receiving said second guard plate.

3. The safety system of claim 1, wherein each of said guard plates has a toothed lower edge, wherein said motor has a pair of rotatable toothed wheels, one of said toothed wheels engaging said toothed lower edge of said first guard plate and the other of said toothed wheels engaging said toothed lower edge of said second guard plate, wherein rotation of said toothed wheels in a first direction by said motor thereby moves said guard plates towards said extended position, and wherein rotation of said toothed wheels in a second direction opposite said first direction by said motor thereby moves said guard plates towards said retracted position.

4. The safety system of claim 1, further comprising a trigger stop being pivotally mounted to said housing such that said trigger stop is positioned adjacent said trigger of said weapon, said trigger stop being pivotable between raised and lower positions, wherein said trigger stop has an upper portion extending behind said trigger to thereby prevent actuation of said trigger and thereby prohibit discharge of said weapon when said trigger stop is pivoted to said raised position, wherein said upper portion of said trigger stop is retracted into said rear portion of said housing to thereby permit

actuation of said trigger to discharge said weapon when said trigger stop is pivoted to said lowered position.

5. The safety system of claim 4, further comprising a solenoid having a retractably extendable actuating rod extending therefrom, said actuating rod being coupled to said trigger stop, wherein said extension of said actuating rod out of said solenoid by said solenoid pivots said trigger stop towards said raised position, wherein said retraction of said actuating rod into said solenoid by said solenoid pivots said trigger stop towards said lowered position.

6. The safety system of claim 1, wherein said computer is in electrical communication with said solenoid for selectively controlling retraction and extension of said actuator rod in and out of said solenoid, wherein said computer activates said solenoid to retract said actuator rod to pivot said trigger stop to said lowered position when said corresponding signal matches said input data.

7. A safety system for a weapon, comprising:

a weapon having a handgrip, a trigger forwardly located from said handgrip, and a trigger guard around said trigger, said trigger guard having a lower forwards break providing a passage through said trigger guard;  
a housing having a top, a bottom, a front, a back and a pair of sides;  
said housing having a rear portion rearwardly extending from said back of said housing adjacent said bottom of said housing;

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said rear portion of said housing having an upper face lying  
in a plane between said top and bottom of said housing;  
said top of said housing being coupled to said weapon such  
that said housing is positioned in front of said handgrip,  
wherein said top of said housing has a pair of mounting  
holes for permitting extension of fasteners therethrough  
and into said weapon to couple said top of said housing  
to said weapon;

said back of said housing being positioned adjacent said  
trigger guard of said weapon, said rear portion of said  
housing being position adjacent said lower forwards  
break of said trigger guard;

said back of said housing having a spaced apart pair of  
substantially parallel elongate slots therein;

said upper face of said rear portion of said housing having a  
spaced apart pair of substantially parallel elongate  
channels rearwardly extending from said back of said  
housing;

a first of said elongate channels being positioned adjacent a  
first of said elongate slots of said back of said housing  
and a second of said elongate channels being positioned  
adjacent a second of said elongate slots of sad back of  
said housing;

a pair of elongate guard plates, said first elongate channel  
receiving a first of said guard plates, and said second  
elongate channel receiving a second of said guard  
plates;

said first guard plate being slidably inserted into said first  
elongate slot, said second guard plate being slidably  
inserted into said second elongate slot;



said first and second guard plates being slidable between  
extended and retracted positioned;  
wherein said guard plates are rearwardly extended from said  
back of said housing to substantially cover said trigger  
guard when said guard plates are positioned in said  
extended position to prevent a user's finger from being  
extendable through said trigger guard;  
wherein said guard plates are extended into said back of said  
housing to uncover said trigger guard when said guard  
plates are positioned in said retracted position to permit  
a user's finger to be extendable through said trigger  
guard in front of said trigger;  
each of said guard plates having a toothed lower edge;  
a motor being disposed in said housing and having a pair of  
rotatable toothed wheels, one of said toothed wheels  
engaging said toothed lower edge of said first guard  
plate and the other of said toothed wheels engaging said  
toothed lower edge of said second guard plate;  
wherein rotation of said toothed wheels in a first direction by  
said motor thereby moves said guard plates towards said  
extended position, and wherein rotation of said toothed  
wheels in a second direction opposite said first  
direction by said motor thereby moves said guard plates  
towards said retracted position;  
a trigger stop being pivotally mounted to said rear portion of  
said housing such that said trigger stop is positioned  
adjacent said trigger of said weapon;  
said trigger stop being pivotable between raised and lower  
positions;

wherein said trigger stop has an upper portion extending through said break in said trigger guard and behind said trigger to thereby prevent actuation of said trigger and thereby prohibit discharge of said weapon when said trigger stop is pivoted to said raised position;

wherein said upper portion of said trigger stop is retracted into said rear portion of said housing to thereby permit actuation of said trigger to discharge said weapon when said trigger stop is pivoted to said lowered position;

a solenoid having a retractably extendable actuating rod extending therefrom, said actuating rod being coupled to said trigger stop;

wherein said extension of said actuating rod out of said solenoid by said solenoid pivots said trigger stop towards said raised position;

wherein said retraction of said actuating rod into said solenoid by said solenoid pivots said trigger stop towards said lowered position;

a computer being provided in said housing and in electrical communication with said motor and said solenoid for selectively controlling rotation of said toothed wheels in said first and second directions and controlling retraction and extension of said actuator rod in and out of said solenoid;

a first battery power source being provided in said housing and in electrical communication with said computer, said motor, and said solenoid;

said bottom of said housing having a removable access panel for providing access to said first battery power source;

a voltage detector being disposed in said housing and being electrically connected to said first battery power source for detecting voltage across said first battery source, said voltage detector having a pair of light sources electrically connected thereto, one of said light sources being mounted on one of said sides of said housing, the other of said light sources being mounted to the other of said sides of said housing;

said voltage detector illuminating said light sources when said voltage detector detects a voltage across said first battery power source less than a predetermined voltage;

said front of said housing a communication port in electrical communication with said computer, said communication port being adapted for electrically connecting to an external computer for permitting input into said computer input data corresponding to an image of a particular user's fingerprints and handprints;

said computer having computer memory electrically connected thereto for storing said input data;

said computer having a second battery power source electrically connected to said computer memory for maintaining storage of said input data in said computer memory, said second battery power source being positioned adjacent said access panel;

a scanner being mounted to said handgrip of said weapon and in electrical communication with said computer for obtaining an image of the fingerprints and handprints of a user grasping said handgrip and sending a corresponding signal to said computer corresponding to the obtained image;

said computer comparing said corresponding signal received from said scanner with said input data, wherein said computer activating said motor to rotate said toothed wheels in said second direction to move said guard panels to said retracted position and activating said solenoid to retract said actuator rod to pivot said trigger stop to said lowered position when said corresponding signal matches said input data;

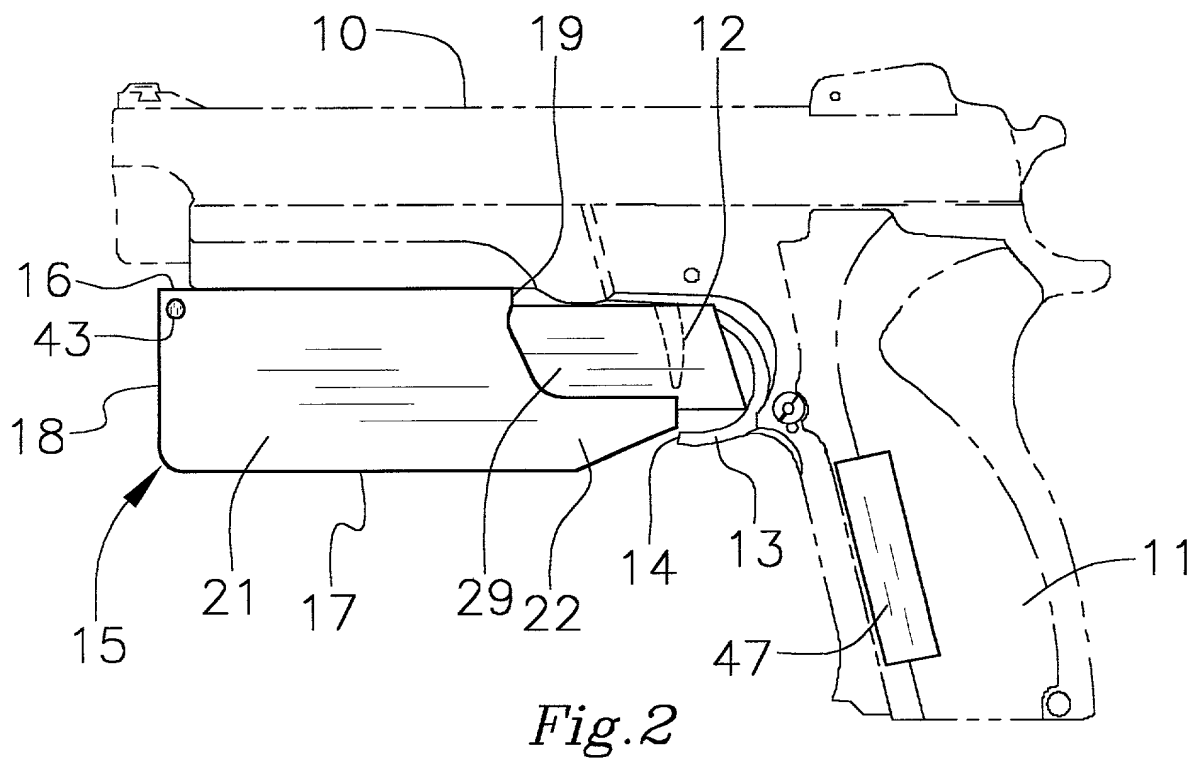
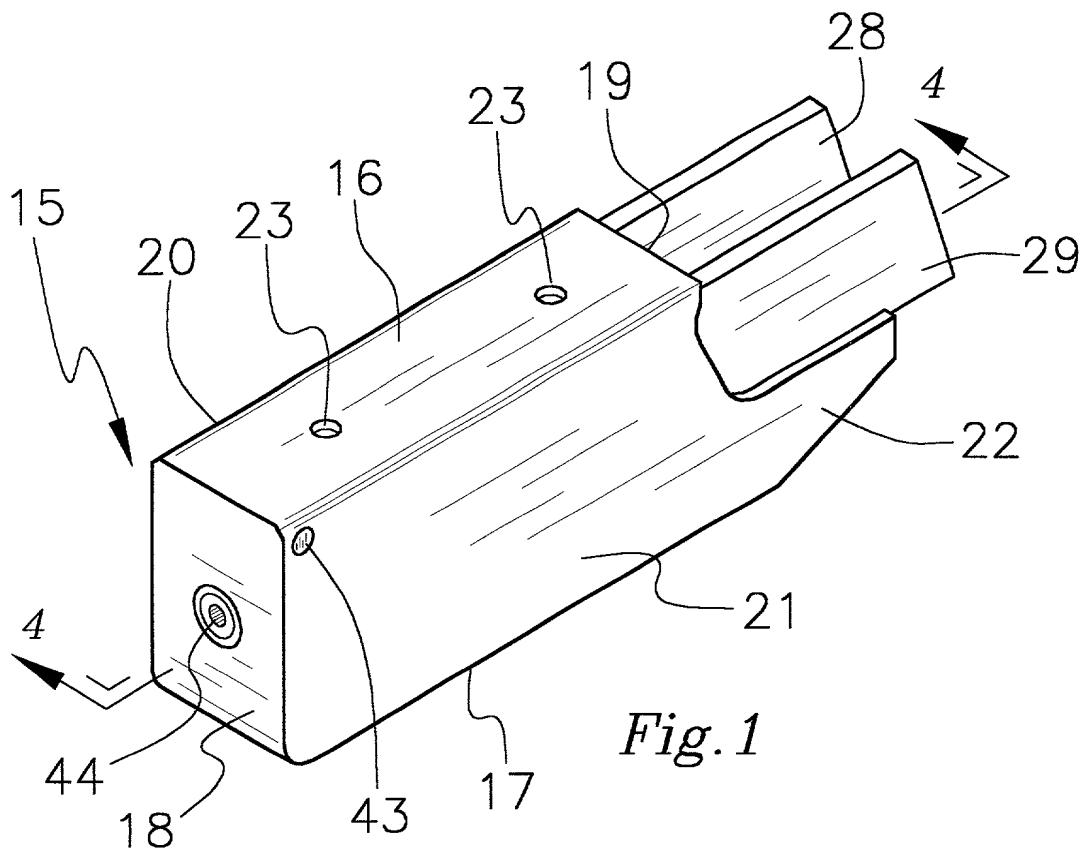
a motion detector for detecting motion being disposed in said housing, motion detector being electrically connected to said computer, said motor and said solenoid, said motion detector having an activation switch electrically connected between said first battery power source and said computer, motor, and solenoid;

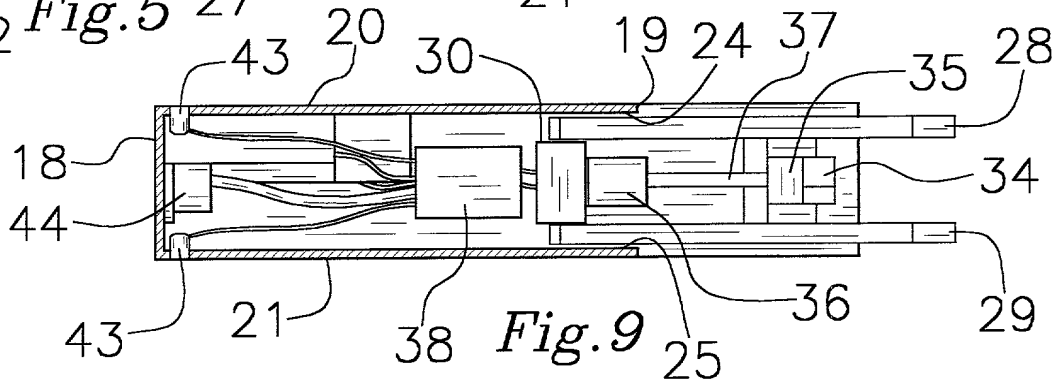
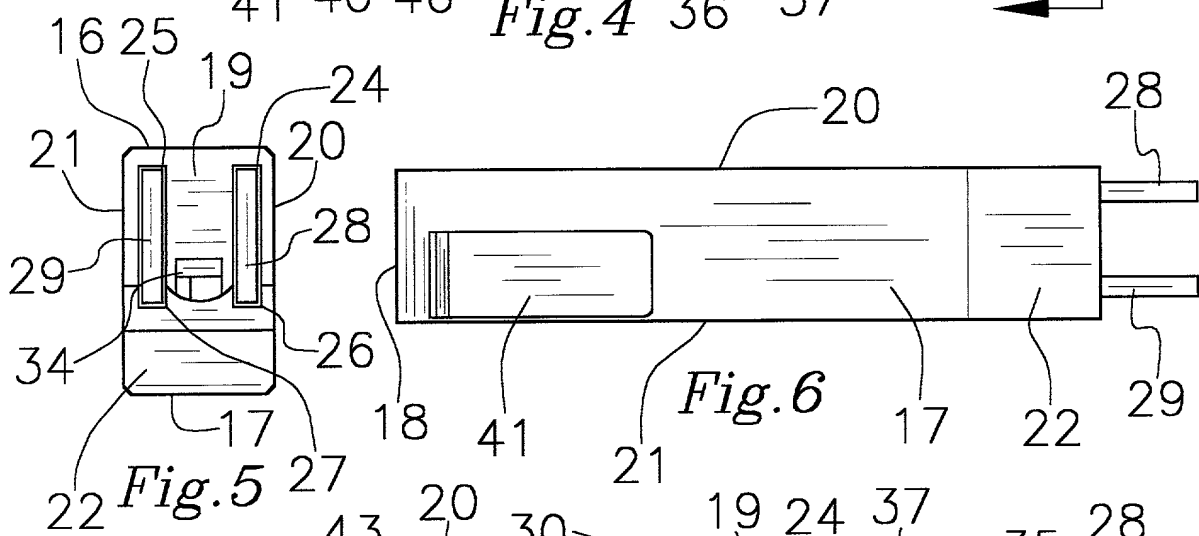
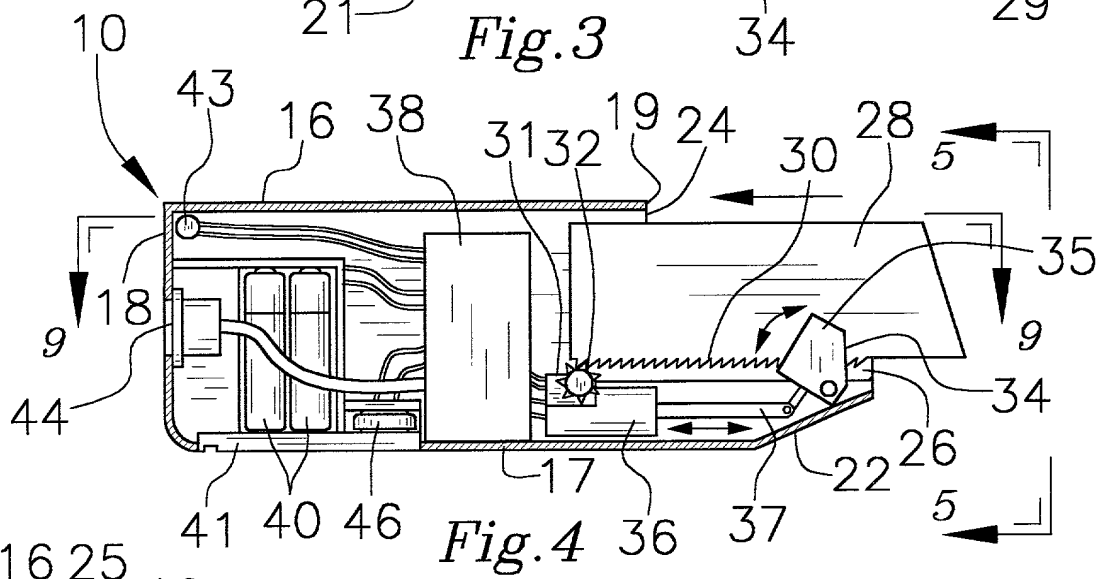
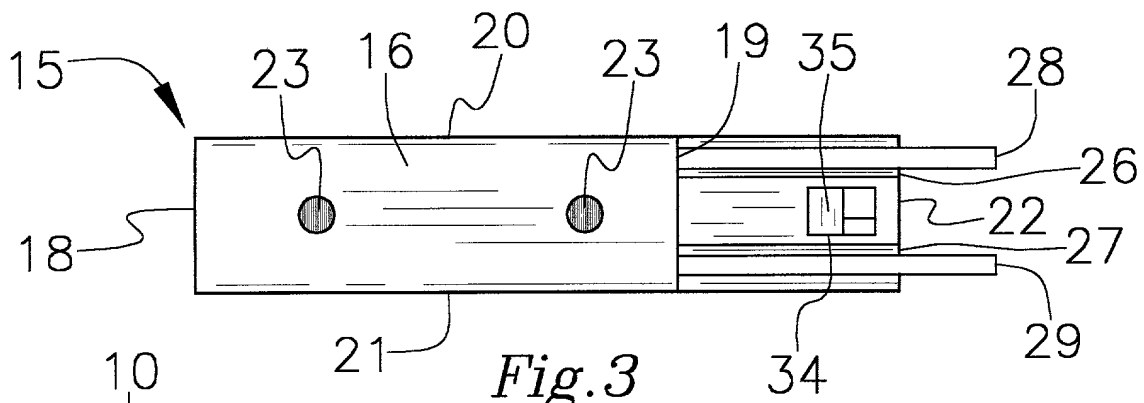
said motion detector activating said switch upon detection of motion to thereby provide energy to said computer, motor and solenoid from said first battery power source; and

said motion detector deactivating said switch upon the absence of detection of motion for a predetermined elapsed amount of time.

**ABSTRACT OF THE DISCLOSURE**

5       A personalized safety device for a hand held weapon for  
preventing unauthorized use of a hand held weapon having a  
trigger. The personalized safety device for a hand held weapon  
includes a housing which is coupled to a weapon such that the  
housing is positioned in front of the handgrip and trigger of the  
10   weapon. A pair of elongate guard plates outwardly extend from a  
pair of elongate slots in the back of the housing. A motor is  
disposed in the housing for extending and the retracting the guard  
plates from the housing. A computer is provided for controlling the  
retraction and extension of the guard plates by the motor. A  
15   scanner is mounted to the handgrip of the weapon and is in  
communication with the computer. The scanner obtains an image of  
the fingerprints and handprint of the user grasping the handgrip. If  
the scanned image matches data stored in the computer  
corresponding to the fingerprints and handprint of an authorized  
20   user, the computer activates the motor to retract the guard plates.





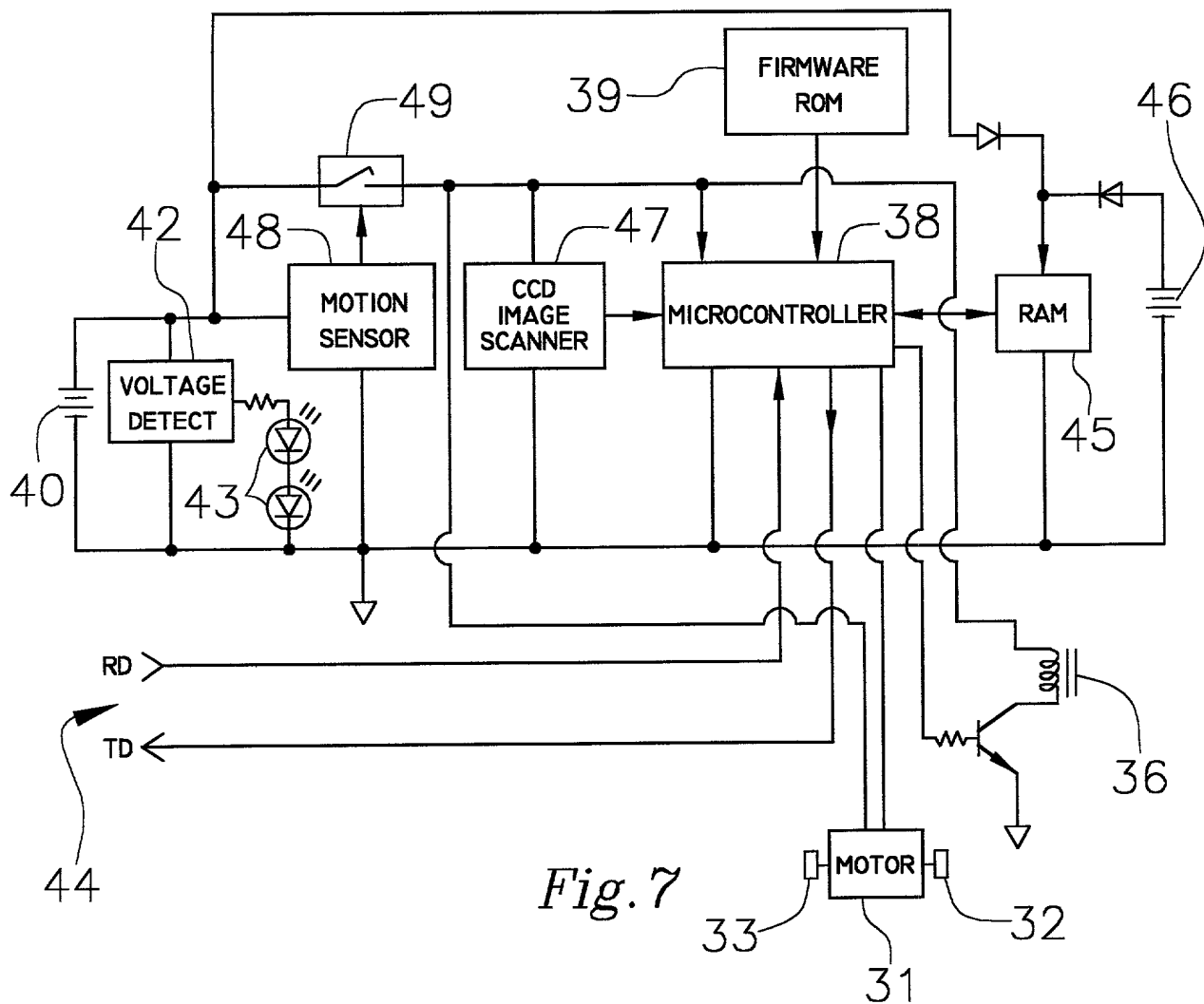


Fig. 7

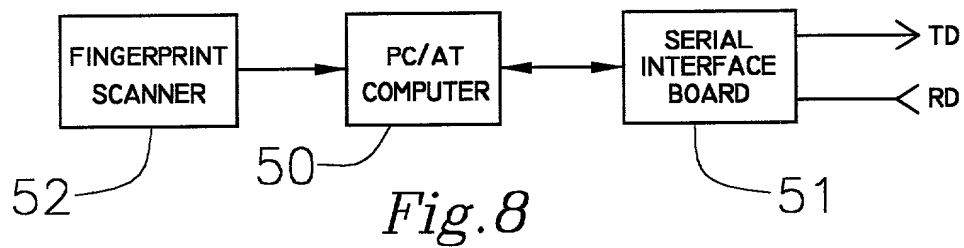


Fig. 8



## **DECLARATION AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

### **PERSONALIZED SAFETY DEVICE FOR A HAND HELD WEAPON**

the specification of which is attached hereto.

I further state that I do not know and do not believe that the above-named invention has ever been known or used in the United States before my invention thereof, or patented or described in any printed publication in any country before my invention thereof, or in public use or on sale in the United States more than one year prior to this application; that the invention has not been patented or made the subject of any inventor's certificate in any country foreign to the United States on any application filed by me or my legal representatives or assigns more than one (1) year prior to this application; and that no application for patent or inventor's certificate on the invention has been filed by me or my representatives or assigns in any country foreign to the United States, except as identified below.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment if applicable.

I acknowledge the duty to disclose information to the Patent and Trademark Office all information known to me to be material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority Claimed

NONE  
(Number)

\_\_\_\_\_  
(Country)

\_\_\_\_\_  
(Day/Month/  
Year Filed)

\_\_\_\_\_  
(Yes)

\_\_\_\_\_  
(No)

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States Provisional application(s) listed below:

NONE  
(Application No.)

\_\_\_\_\_  
(Filing Date)

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or Section 365 (c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, Section 112. I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

NONE  
(Application No.)

\_\_\_\_\_  
(Filing Date)

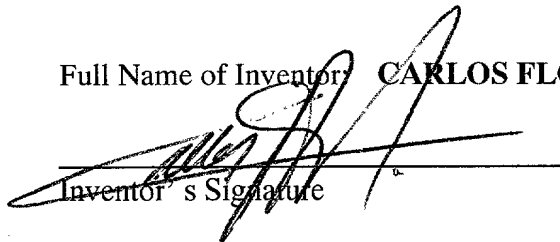
\_\_\_\_\_  
(Status - patented,  
pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys to prosecute this application and transact all business in the U.S. Patent and Trademark Office connected therewith: Ivar M. Kaardal, Registration Number 29,812.

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Date: MARCH 17/99

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